

Eastern Barred Bandicoot (*Perameles gunnii*) at Hamilton, Victoria

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Distribution

This species occurs in Tasmania and was once also widespread across the grasslands/woodlands of the volcanic plains of Western Victoria. Our bandicoot is now found to occur in the wild on the mainland only at Hamilton, although there is no viable wild population. In the 1970s one could watch them feeding on Kennedy Oval or at the Sewerage Treatment paddocks in the evening. Animals seen now outside the Parkland's 100 ha Bandicoot Enclosure have escaped through the netting when young.

Barred Bandicoots were quite common in our region until about 1975, when the population crashed. By 1988 there were thought to be less than 200 bandicoots in the wild. It is regarded as Victoria's most endangered species and a breeding scheme involving captive populations has been in progress since 1993 when fewer than 110 bandicoots were known to exist in the wild or in captivity.

Bandicoot biology

The bandicoot is a marsupial mammal, adults weighing from 600-1000 g (about the size of a half-grown rabbit). It has a pouch for carrying its young. Bandicoots have the shortest reproductive cycle of all mammals – 11-13 days from conception to birth. At birth the tiny bean-sized embryos weigh 0.5 g and are 10-13 mm long. The blind young crawl their way over the hair into the mother's back-opening pouch and attach to nipples in there. The usual litter number is between 2 to 3, although more than that may be born, and the mother has 8 teats available for attachment. The suckling babies will stay in the pouch for around 55 days and the young will be independent in about 3 months from birth.

The female bandicoots can breed at 3-4 months and the males at 4-5 months. Research in Tasmania found that 3-4 litters can be produced per season, with 9-10 young being raised per year. However, if seasonal conditions are poor, breeding is delayed and the number of young produced is less.

While the bandicoot has potentially a fast rate of reproduction it is subject to high predation from foxes, cats, dogs, owls and raptors. It is also killed by motor vehicles and other machinery. The bandicoot also has a short natural life span, rarely extending beyond 2 or 3 years.

Bandicoots forage at night for invertebrates such as earthworms, crickets, caterpillars, beetles and grubs. They will also eat some plant material, including bulbs of grasses.

Bandicoots build 'nests' about 30 cm long and 10 cm wide just under the surface of the ground, invariably under fallen branches or tussocks in a well drained spot not subject to being trodden on. The nest is lined with grass. The thin roof is made of grass and soil. There are no obvious openings.

Causes of the decline in the bandicoot population

- Gradual loss of the tussock grasslands on the basalt plains as agricultural development increased – the loss of such cover affects breeding and increases predation pressure.
- Compaction of the soil due to intensive grazing by hard-hooved livestock – bandicoots cannot (or prefer not) to forage in and on hard surfaces.
- The loss of wetlands where bandicoots were able to forage in summer in damp soil.
- The widespread use of Lindane super and DDT pesticide to control pasture pests in the 1960s probably resulted in a steep decline of the bandicoots in our area.
- Foxes arrived in the area in the Penshurst area in 1906 – these predators are very efficient hunters and would have exerted a major control of bandicoots when the rabbit population declined as a result of Myxomatosis virus and 1080 poison in the 1960s.
- Cats prey on bandicoots and they also carry a disease of Toxoplasmosis that affects bandicoots. Domestic cats should be kept indoors at night to prevent them hunting.
- Increasing tidiness in the townships such as Hamilton where bandicoots previously found shelter in long grass and in and around rubbish tips and the sewerage farms.

Captive breeding program

The Hamilton Community Parklands, Mooramong, Werribee Open Range Zoo, Woodlands, Mt Rothwell, Melbourne Zoo, Serendip Sanctuary and French Island are involved in a breeding program.

The process has been to take animals from the wild, breed them in captivity and then return the progeny to predator-free places. That requires attention to try and avoid in-breeding, which is a serious problem when the number of wild populations, and numbers in those groups, is low.

Inbreeding in a species can result in skeletal deformities, infertility and a loss of ability to adapt to environmental change. That could be a major problem with the Eastern Barred Bandicoot. One option to widen the genetic base is to introduce some males from Tasmania into the breeding program.

The photos below were taken in 1981 and 1982 at Hamilton, before the population crashed.

