

Koala life – up close and personal

Understanding koala life

Males and females

Difference between a male and female koalas

Adult male koalas are larger than adult female koalas. Males have a brown stain on their chest.

Koalas in southern Australia:

Size * (head and body length)	Male 750mm to 820mm (average 782mm)	Female 680mm to 730mm (average 716mm)
Weight *	Male 9.5kg to 13.5kg (average 11.8kg)	Female 7.0kg to 9.8kg (average 7.9kg)

* Source: Strahan, Ronald (Ed) (1998) *Complete Book of Australian Mammals*, Australian Museum.

Koala scent gland

Male koalas have a large scent gland which gives them a brown stain in the middle of their chest. As breeding season approaches the oils in this gland increase and become very strong in scent. The male will rub his chest on the trees in his territory, leaving his scent and marking the area as his own.

Male koalas will start developing their scent gland at around 12-18 months of age.

Koala hierarchy - who's the boss

There appears to be a dominance hierarchy among male koalas in the wild, becoming more obvious during breeding season. Young male koalas are capable of breeding from 18 months of age, however they do little mating before becoming fully physically mature at 4-5 years of age, mainly due to the older and larger males preventing them from accessing the breeding females. The dominant male koala is usually the one that mates the most females.

During the breeding season the dominant males will move from tree to tree checking to see whether the females are ready to mate. They will fight and exclude other males from accessing the females. Dominant male koalas will stay close to and repeatedly mate with females who are in season.

Lifespan of a koala

A koala can live for 12-15 years in captivity or in a suitable habitat, however in the wild the conditions can be much tougher, and will often affect how long they live. The life span of a koala in the wild is thought to be approximately 10-15 years, with males living for about 10 years and female koalas up to 15 years. Other factors that can affect the life span of the koala include: presence of disease, particularly where caused by the bacterium *Chlamydia*, and the condition of a koala's teeth, which affect its ability to grind and chew eucalypt leaves.

Koala home range

A home range is defined as the amount of space needed by an animal to survive in the wild. A koala's home range will vary in size depending on the quality of the habitat and availability of resources. In their home range koalas have shelter trees and food trees. They tend to revisit these selected trees throughout the year.

In preferred habitat female koalas have a home range of approximately 1 hectare, whereas males have approximately 1 to 1.5 hectares, depending on their age and size. These home ranges can overlap, for example, a male koala's home range may overlap with the ranges of other males and females. In urban areas it is quite likely that a koala's home range will be larger to take account of the poorer quality and less vegetated habitat available.

In the wild, koalas are generally a solitary species. In suitable habitat koalas will generally only be observed together during their breeding season, or in a maternal relationship (mother and joey). As suitable koala habitat becomes more limited and fragmented, and with koalas adapting to urban environments, koalas may be observed in higher numbers in smaller areas. Where young male koalas are unable to establish their own home territory they will become nomadic - wandering in search of food and a place to make their own.

Reproduction

Koala breeding season

In South Australia the koala breeding season is from September to February, with the birth period between October and April. Mating usually occurs at night.

Length of pregnancy and number of young born

A pregnancy lasts only 35 days. Generally there is only one joey per pregnancy; however, occasionally twins are born.

Breeding age of female koalas

Female koalas are ready to mate from the age of 2 to 2^{1/2} years.

Lifecycle of a young koala (birth to 1 year)

The new born koala

A new born koala is approximately 2cm long and weighs less than 1 gram. The new born koala is blind and hairless and looks like a pink jellybean.

Once born the baby joey makes its way from the birth canal (the cloaca) to the pouch opening by crawling. The pouch has two teats (twins have been recorded but are not common). On arrival to the pouch the joey will attach itself to one of the teats and begin to suckle. The mother koala then contracts her strong sphincter muscle to stop the joey from falling out of the pouch.

Inside the pouch

Most joeys stay in their mother's pouch for the first 6 months of their life.

Birth - 13 weeks

Joeys stay attached to their mother's teat. At 13 weeks fur will start to appear.

At 22 weeks

Eyes have now opened and it will begin to poke its head out of the pouch. At this stage the joey will stimulate the mother's cloaca to make modified faeces called 'pap'. Eating this pap is a vital step in its development because it provides the joey with the intestinal microflora needed to digest eucalyptus leaves.

At 24 weeks

Joey koalas are fully furred but their fur is a dark-brown - black colour. The first teeth appear and they have their first feed of eucalypt leaves. The joey will weigh at least 500 grams.

At 30 weeks

The joey's fur is a lighter colour now and it spends a lot of time clinging to the belly fur of its mother. The mother sits in a rounded position, protecting the joey by wrapping her arms around it.

At 36 weeks

The joey's weight is now between 1-2 kgs and it stops entering its mother's pouch. The joey will become more adventurous, clinging to its mother's back, and venturing away from her.

Independent joey koala

Joeys are weaned when 12 months old, at which time they weigh between 1-2 kilograms. They remain in their mothers home range for a further 12 months before moving away to establish their own territory.

Diet

Koala food

Koalas have a highly specialised diet, feeding primarily on eucalyptus leaves. Despite there being over 700 species of Eucalyptus trees in Australia, koalas will only feed on leaves from about 40 of these species. Each koala's choice varies according to locality and season. In South Australia koalas generally occupy eucalypt forests and prefer to eat Manna Gum (*Eucalyptus viminalis*), Swamp Gum (*Eucalyptus ovata*), River Red Gum (*Eucalyptus camaldulensis*), Blue Gum (*Eucalyptus leucoxylon*), Long-leaved Box (*Eucalyptus goniocalyx*) and Brown Stringybark (*Eucalyptus obliqua*), particularly where they are grown in fertile soils. Koala food preferences alter depending on the season.

A koala typically eats between 500 - 1000g (approximately 10% of its body weight) of eucalypts per day.

Koala behaviour

Koala activity

Koalas are most active between dusk and dawn. This is when most movement between trees is undertaken. Getting down from a tree involves climbing down backwards, bottom first.

Sleeping koalas

Koalas spend approximately 18-20 hours of each day resting or sleeping, 1-3 hours feeding and the remaining time spent moving between branches or trees, grooming or in social behaviour. A feeding session normally last from 20 minutes to two hours in duration. Feeding occurs 4-6 times per day and can occur at any time of the day or night. Koalas have a predisposition for feeding immediately before or after dusk or dawn.

Eucalyptus leaves are very fibrous and contain large amounts of cellulose, a complex carbohydrate that is difficult to digest and produces relatively little energy. Koalas survive on this low energy diet of eucalyptus leaves by sleeping a lot and conserving energy wherever possible.

Koalas and water

Eucalyptus leaves generally have a high water content so koalas do not normally need to drink from a dedicated water body, having obtained their water needs from their food. However, in periods of drought and heat waves koalas will drink water due to the decrease in water content in their food.

Koala talk

Koalas communicate with each other by scent marking and calling. Males will rub their scent gland on their trees, whilst scent marking with urine of trees and nearby ground is used by both male and female koalas. Koalas also make a variety of vocal calls such as bellows, snarls and screams.

Funny walking koalas

Koalas are physically built for a life in the trees and have an awkward looking gait when walking on the ground. A hard wedge shaped cartilaginous plate forms the rear end of a koala, allowing it to wedge itself into forks of trees. The hands have two thumbs and three fingers, providing an extra strong grip, while the back foot has a modified digit with two claws for grooming (all marsupials have this grooming claw). The thumb on the back foot has no claw, allowing the koala to climb down trees with ease.

Swimming koalas

Koalas can swim out of necessity (e.g. if they fall from their branch into a river or swimming pool), however they will unfortunately often drown when they fall into swimming pools with no easy way out of the water.

Protection from overheating and cold weather

Koala fur is very thick and insulates them from getting too hot, or too cold. Koalas can regulate their body temperature by changing the position they sit in. The fur along their backs is very thick, dark and waterproof. On cold days a koala will curl up in a ball exposing this dark back fur towards the sun to absorb heat. On warmer days they will expose the white chest fur to reflect heat. The thinner nature of this fur also allows cool breezes to remove body heat. On days of extreme heat, some koalas will lie chest down on the ground in the shade to keep cool.

Sense of smell

Koalas have a keen sense of smell. They can smell the trunk of a tree and know if the leaves are good to eat. They will also smell individual leaves to decide whether to eat them or not.

References | Further reading

Strahan, Ronald (Ed) (1998) *Complete Book of Australian Mammals*, Australian Museum

Phillips, Bill (1990) *Koalas: the little Australians we'd all hate to lose*, Australian Government Publishing Service, Canberra

Hunter, Simon (1987) *The Official Koala Handbook*, Chatto & Windus Ltd, London



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