

Fat tailed Dunnart

Sminthopsis crassicaudata



Australia is home to 19 species of Dunnart. Three are listed as endangered and one as vulnerable. Two species occur in Australia and New Guinea.

The Fat tailed Dunnart is classified as common. It is immediately recognisable with its large ears, eyes and fat tail. As a species it has adapted to a variety of vegetation habitats ranging from moist regions, the arid inland and lake Eyre basin. This species occurs in all mainland states of Australia. They are a nocturnal species of dasyurid. The Fat tailed Dunnart constructs nests in logs from grasses and or dried plant material. Fat tailed Dunnarts can go through a period of torpor, this is when the fat stores in the tail are utilised.

There are two subspecies of Fat tailed Dunnart, *Sminthopsis crassicaudata crassicaudata* which occur in south western, WA. South eastern parts of SA. Victoria. South Eastern, QLD. And south and eastern, NSW. *Sminthopsis crassi-*

caudata centralis occurs in a large geographical region of inland Australian in all mainland states with the exception of Victoria.

Fat tailed Dunnarts are a relatively easy species to keep in captivity. DSE recommended enclosure sizes are 2000sqcm for one animal with 1000sqcm increased floor area for each additional animal. A minimum enclosure height of 50cm above substrate. Jackson, *Australian Mammals Biology and Captive management* suggests enclosure area L x W x H of 50 x 50 x 40cm with 25 x 25cm floor area for each additional animal.

Lifespan 24-36 months in the wild, and 29-51 months in captivity. Fat tailed Dunnarts will generally have two litters a year between July and February. The female has 8-10 teats inside a well developed pouch. This species displays behavioural oestrus which can be observed for 2-3 days. Gestation is 12-14 days. Litter size, 3-10. First detached, 43 days. Permanent pouch exit, 59-63 days. Weaning 65-68 days. Sexual Maturity - male : 4 months. Female, 5 months.

Housing

Commercial reptile enclosures and fish tanks with wire tops make a good start for a Dunnarts housing requirements. *Sminthopsis crassicaudata crassicaudata* have been kept successfully without heat indoors. "In wild and captivity all species of carnivorous marsupials appear to bask in the sun". (Jackson 2003) It is suggested to provide basking opportunities with a heat source that is activated for a few hours every day. Many keepers will provide a heat source at all times with a heat gradient within the enclosure.

There is not set rule of the exact temperature required, some choose 18C up into the high 30's at the basking sight. Keeper experience reports reproduction slowing on animals kept in cooler conditions.

Breeding can also be affected by the presence of a light cycle. An artificial light source should be provided via a florescent tube. The light cycle should mimic a natural light cycle. Keepers have used a 12 hour light and 12 hour dark cycle during the breeding months with some success.

Substrates - small round aquarium pebbles, paper litter, clay cat litter and sand, are all used. If using sand it needs to be a very fine grade to avoid being abrasive to the animals feet. Clay cat litter seems to provide more odour absorption than sand. Sand will also require more cleaning and maintenance than other substrates.

Furnish the enclosure with rocks and hollow logs for climbing and nesting. Tussock grasses. Native foliage and blossoms. Animals can display stereotypical behaviours to avoid this change the position of rocks and logs occasionally, consider introducing a running wheel or commercial small animal play equipment. Nest boxes can also be provided instead of or in addition to logs suggested nest box size 10cm x 10cm x 10cm with a 5cm entrance hole. The nest box should have removable (not hinged) lid.

Dunnarts will scent mark, they also choose certain areas to toilet, spot cleaning of the areas regularly is required to maintain hygiene and odour control. How regularly you clean the entire enclosure depends on the enclosure size and number of animals kept. Your nose is a good indicator of when to completely clean the enclosure. I find three animals with 4800sq cm kept on clay cat litter require a full enclosure clean every 4-5 weeks.

Diet used by Healesville Sanctuary

Daily per animal
6g pet health food (3 cubes)
10g egg or cheese
2 mealworms
1 Eukanuba Pet Food Kibble
1/8 day-old chick or mouse
1g fly pupae

Supplement

2 crickets 3-4 times per week as available
2 earthworms 1-2 times a week as available
2 moths 3-4 times a week as available
Blossoms available

Meat mix for dasyurids developed by Taronga Zoo

3 cups mice meat
4.5cups crushed dog kibble
6 shelled hard boiled eggs

The dog kibble is crushed finely and mixed with the eggs, that have been mashed, and the mince meat. The mince can them be frozen into serving sizes in plastic bags and should not be refrozen after thawing.

Diet from Overton Keeping Native Mammals

Per Animal Per day

1tbsp mammal meat mix

2 mealworms

1tsp corn kernel

Crickets/moths

Extras (every 2nd day)

1 soft dog biscuit

1/4 tsp fly pupae

Optional (one a week)

Cockroaches

1/4 tsp pollen grains

1/4tsp sunflower seeds

Ad lib Blossoms & Native vegetation

Multivitamin (pentavite) can be added to water 1 drop per 50ml.

Other food suggestions are keeping a bowl of dried cat biscuits available in the enclosure at all times, this will encourage chewy that will keep teeth and gums in good condition. Some keepers feed a high quality commercial cat food (not fish). Also consider using Wombaroo's, small carnivore mix. A general rule for what ever food mix you may choose would be 10g of food per animal per day and 40g of food per day for females with pouch young. All fresh meat should be frozen for at least four weeks before feeding to prevent toxoplasmosis or other parasites. Some diets suggest not to feed mealworms daily, consider other alternative before offering mealworms. Keeper experiences have preferred not to use pinkie mice as it is felt it may encourage females to cannibalise young. Consider also with chickens animals may have an intolerance to feathers in the diet which can cause feather balls and may lead to fatal intestinal obstruction.



Handling

Handling should be kept to minimum. Animals can be picked up by grasping the base of the tail between the thumb and index finger with the animal on their back in your hand. Alternatively animals can be caught in a clear jar, lifting the jar right side up leaving the Dunnart with in the jar allowing perfect vision of the animal without the stress of being handled.

Diseases

Fat tailed Dunnarts suffer from few problems in captivity. With any health issue correct husbandry will prevent many issues that may arise. Dunnarts can have fleas and mites which need a topical or SC injectable treatment. Toxoplasmosis will cause mortality in Dunnarts, prevention methods need to be in place. Freeze all fresh meat for at least four weeks prior to feeding to animals. Keep all bedding materials and food away from cats at all times.



Breeding

When pouch young are observed the female needs to be kept separately. The female may kill the male while she has pouch young or the male may kill the young. Keepers who house Dunnarts in glass fish tanks simply divide the tank with a glass partition making the females area 1/4 the size of the tank until the young are completely detached from the teat. Keepers report a lower mortality rate of young when females are placed in a smaller space. There is not a strong bond between female and offspring, she will most likely not go looking for her young if they become detached. In a larger area the lost young can get cold and die very quickly. The space is then increased to 1/2 of the tank when the young become more independent until weaning is required. Use a smaller animal sipper bottle while the female is confined with pouch young. Keepers have found small dunnarts can drowned even in the smallest water bowl.

Further reading

Jackson, *Australian Mammals Biology and Captive Management*, 2003.

Strahan, *The Mammals of Australia* 2002.

Overton, *Keeping Native Mammals* 2001.

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